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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/761,745 01/21/2004 Jeffrey P. Jones 2002B124-2 3637

23455 7590 07/24/2007
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EXAMINER

LEUNG, JENNIFER A

ART UNIT	PAPER NUMBER
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1764

MAIL DATE	DELIVERY MODE
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07/24/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/761,745

Applicant(s)

JONES ET AL.

Examiner

Jennifer A. Leung

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 13 April 2007 and 14 May 2007.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 59,95,102 and 103 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 59,95,102 and 103 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
- Certified copies of the priority documents have been received.
 - Certified copies of the priority documents have been received in Application No. _____.
 - Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) Notice of Informal Patent Application
- 6) Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application on May 14, 2007, after a final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 13, 2007 has been entered.

Response to Amendment

2. Applicant's amendment submitted on April 13, 2007 has been carefully considered. Claims 1-58, 60-94, 96-101 and 104-108 are cancelled. Claims 59, 95, 102 and 103 are under consideration.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

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invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claim 59 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cherish et al. (US 4,282,010) in view of Tomuro et al. (JP 59-219390) and Brummond et al. (US 5,491,280).

Cherish et al. (FIG. 1-3; column 3, line 24 to column 4, line 21) discloses an apparatus comprising:

an inlet including a heating device (i.e., an inlet for supplying inlet nozzle **40** with a feedstock at “a temperature in the range of 500 °F”; see column 3, lines 39-45. Therefore, the inlet must inherently comprise a heating device, not shown, for heating the feedstock up to said temperature);

a feed introducing nozzle including a first generally tubular member (i.e., an inner tube **28**) defining a feedstock pathway, the tubular member **28** having a first end (i.e., adjacent to nozzle **40**) receiving the feedstock from the heating device and a second end protruding into or flush with an interior surface of the reactor unit (i.e., protruding into a fluidized bed reactor **10**), and an inner surface forming a conduit (i.e., as defined by the inner surface of the inner tube **28**), wherein at least a portion of the inner surface is formed of a commercial alloy comprising Incoloy 800 (see column 3, lines 34-36); and

a second larger diameter cylindrical tube (i.e., an outer tube **32**) oriented coaxially to the feed introduction nozzle thereby forming an outer cooling pathway around the feedstock pathway (i.e., an outer annulus **36** for flowing a cooling and fluidization booster medium supplied by inlet nozzle **44**; column 3, lines 54-59), wherein the cooling pathway **36** is closed-off at an end corresponding to the first end of the nozzle (see FIG. 2) so that cooling medium can

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flow toward the reactor unit **10** and exit the feed introduction nozzle within the reactor unit through a diluent outlet (i.e., via perforations **56**; FIG. 3):

The recitations with respect to a methanol feedstock have not been given patentable weight, since expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim, *Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969), and the inclusion of a material or article worked upon by a structure being claimed does not impart patentability to the claims, *In re Young*, 75 F.2d 966, 25 USPQ 69 (CCPA 1935); *In re Otto*, 312 F.2d 937, 136 USPQ 458, 459 (CCPA 1963).

With respect to the newly claimed limitations, *Cherish et al.* is silent as to the apparatus comprising a thermocouple implemented on a surface of the feed introduction nozzle to monitor the temperature of said surface, and means for modifying the characteristics of the cooling medium flowing through said cooling pathway in response to the temperature monitored by said thermocouple.

Tomuro et al. (Abstract; FIGs. 1, 2) teaches a feed introducing nozzle **101,102** defining a feedstock pathway, and a second larger diameter cylindrical tube **103** oriented coaxially to the feed introduction nozzle, thereby forming an outer cooling pathway around the feedstock pathway. In particular, *Tomuro et al.* teaches a thermocouple **105** and means for modifying the characteristics of the cooling medium flowing through the cooling pathway in response to the temperature monitored by the thermocouple **105** (i.e., a flow regulating signal is sent to a cooling water flow controller to increase the flow of cooling water; see abstract).

In addition, *Brummond et al.* (FIG. 1; column 3, line 30 to column 4, line 11) teaches a feed introducing nozzle **29** defining a feedstock pathway, and a second larger diameter

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cylindrical tube oriented coaxially to the feed introduction nozzle, thereby forming an outer cooling pathway 30 around the feedstock pathway. In particular, Brummond et al. teaches a thermocouple 40 implemented on a surface of the feed introduction nozzle 29 (see FIG. 1) to monitor the temperature of said surface, and means for modifying the characteristics of the cooling medium flowing through said cooling pathway 30 in response to the temperature monitored by said thermocouple 40 (see column 3, lines 65-68 and column 4, lines 8-11).

It would have been obvious for one of ordinary skill in the art at the time the invention was made to provide the claimed features of a thermocouple and means for modifying the characteristics of the cooling medium flowing through the cooling pathway in the apparatus of Cherish, because said features would have provided an automated means for maintaining reactor under a safe and predetermined temperature range, as taught by Tomuro. Furthermore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to implement the thermocouple on the surface of the feed introduction nozzle, as taught by Brummond et al., in the modified apparatus of Cherish, on the basis of suitability for the intended use and absent a showing of unexpected results thereof, because the thermocouple location as taught by Tomuro et al. and the thermocouple location as taught by Brummond et al. would have been recognized as art equivalents for providing the same purpose of monitoring the temperature of the feedstock, and the substitution of known equivalent structures involves only ordinary skill in the art. *In re Fout* 213 USPQ 532 (CCPA 1982); *In re Susi* 169 USPQ 423 (CCPA 1971); *In re Siebentritt* 152 USPQ 618 (CCPA 1967); *In re Ruff* 118 USPQ 343 (CCPA 1958). Furthermore, the shifting of the location of parts was held to have been obvious, *In re Japikse*, 181 F.2d 1019, 1023, 86 USPQ 70, 73 (CCPA 1950).

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4. Claims 95, 102 and 103 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cherish et al. (US 4,282,010) in view of Tomuro et al. (JP 59-219390) and Brummond et al. (US 5,491,280), as applied to claim 59 above, and further in view of Roberge (Handbook of Corrosion Engineering).

Cherish et al. is silent as to whether another commercial alloy, such as one of the instantly claimed alloys, may be substituted for the Incoloy 800 used for forming the inner surface of the inner tube 28. In any event, it would have been obvious for one of ordinary skill in the art at the time the invention was made to substitute another suitable, known commercial alloy for the metal alloy used in the modified apparatus of Cherish et al., on the basis of suitability for the intended use and absent showing any unexpected results thereof, because the claimed commercial alloys are commonly employed in the chemical industry for constructing equipment to be exposed to conditions of high temperature and corrosion, as evidenced by Roberge (see TABLE 3.6). Furthermore, the substitution of known equivalents merely involves ordinary skill in the art. *In re Fout* 213 USPQ 532 (CCPA 1982); *In re Susi* 169 USPQ 423 (CCPA 1971); *In re Siebentritt* 152 USPQ 618 (CCPA 1967); *In re Ruff* 118 USPQ 343 (CCPA 1958).

Response to Arguments

5. Applicant's arguments with respect to claims 59, 95, 102 and 103 have been considered; but they are moot in view of the new ground(s) of rejection, necessitated by amendment.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A. Leung whose telephone number is (571) 272-1449.

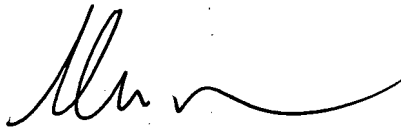
The examiner can normally be reached on 9:30 am - 5:30 pm Monday through Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn A. Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

^{JAL}
Jennifer A. Leung
July 10, 2007


Glenn Caldarola
Supervisory Patent Examiner
Technology Center 1700